

Amendments to the Claims

This listing of claims will replace the prior version in the application.

CLAIMS

1. (withdrawn) An Organic fibre exhibiting thermoplastic behavior comprising
 - from 10 to 99% by weight of the total weight of the formulation of at least one thermosetting resin,
 - from 1 to 80% by weight of the total weight of the formulation of a rheology-controlling agent comprising block copolymers selected from S-B-M, B-M M-B-M wherein:
 - the M blocks comprise a polymer miscible with said thermosetting resin,
 - the B is blocks comprise a polymer incompatible with said thermosetting resin and incompatible with said M block having a glass transition temperature lower than the operating temperature for said thermosetting resin,
 - the S blocks comprise a polymer incompatible with said thermosetting resin and said B block and having a glass transition temperature greater than the glass transition temperature of B, and
 - from 0 to 50% by weight of the total weight of the formulation of at least one material chosen from thermoplastics, core-shell additives, functionalized elastomers, S-B copolymers, ATBN reactive rubbers or CTBN reactive rubbers.
2. (withdrawn) Fibre according to Claim 1, characterized in that the M block is chosen from poly(methyl methacrylate)s or copolymers comprising at least 20% by weight of methyl methacrylate.
3. (withdrawn) Fibre according to Claim 1, characterized in that the M blocks comprise at least 75% by weight syndiotactic PMMA.
4. (withdrawn) Fibre according to claim 1, characterized in that the M blocks further

comprise reactive monomers, selected from glycidyl methacrylate, tert-butyl methacrylate or acrylic acid.

5. (withdrawn) Fibre according to claim 1, characterized in that the glass transition temperature of the B block is less than 0°C.

6. (withdrawn) Fibre according to Claim 5, characterized in that the B block is chosen from poly(alkyl acrylate)s, dienes or polydienes.

7. (withdrawn) Fibre according to Claim 6, characterized in that the B block is a 1,4-polybutadiene.

8. (withdrawn) Fibre according to Claim 5, characterized in that the dienes of the B block are hydrogenated.

9. (withdrawn) Fibre according to claim 1, characterized in that the glass transition temperature of the S block is greater than 23°C.

10. (withdrawn) Fibre according to Claim 9, characterized in that S block is chosen from methylstyrene, vinyltoluene or polystyrene.

11. (withdrawn) Fibre according to claim 1, characterized in that the weight-average molar mass of the block copolymers is between 10 000 g/mol and 500 000 g/mol.

12. (withdrawn) Fibre according to Claim 11, characterized in that the weight-average molar mass of the block copolymers is between 20 000 g/mol and 200 000 g/mol.

13. (withdrawn) Fibre according to claim 1, characterized in that the proportion of said rheology-controlling agent is from 10 to 60% when the proportion of said thermosetting resins is from 90 to 40%.

14. (withdrawn) Fibre according to one of Claims 1, characterized in that the thermosetting resin comprises a thermosetting epoxy resin and a hardener.

15-17. (canceled)

18. (withdrawn) Fibre according to claim 1, characterized in that the glass transition temperature of the B block is less than 40°C.

19. (withdrawn) Fibre according to claim 1, characterized in that said S block is chosen from vinylaromatics, or alkylesters of (meth)acrylic acid having 1 to 18 carbons in the alkyl chain.

20. (withdrawn) Fibre according to Claim 6, characterized in that the poly(alkyl acrylate)s is selected from poly(butyl acrylate), poly(ethylhexyl acrylate) or poly(octyl acrylate).

21. (withdrawn) Fibre according to claim 1, characterized in that the glass transition temperature of the S block is greater than 50°C.

22. (withdrawn) Fibre according to claim 1, characterized in that the proportion of said rheology-controlling agent is from 20 to 50% when the proportion of said thermosetting resins is from 80 to 50% .

23. (withdrawn) The fibre of claim 1 formed via extrusion.

24-27. (canceled)

28. (new) A process for forming a composite material comprising:

forming filaments from a composition comprising

- from 10 to 99% by weight of the total weight of the formulation of at least one thermosetting resin,
- from 1 to 80% by weight of the total weight of the formulation of a rheology-controlling agent comprising at least one block copolymer selected from S-B-M, B-M or M-B-M blocks wherein:

said blocks are connected to each other or via one or more intermediate molecules by means of a covalent bond,

the M blocks comprise a polymer miscible with said thermosetting resin,

the B blocks comprise a polymer incompatible with said thermosetting resin and incompatible with said M block and having a glass transition temperature lower than the operating temperature for said thermosetting resin, and

the S blocks comprise a polymer incompatible with said thermosetting resin and said B block and having a glass transition temperature greater than the glass transition temperature of said B blocks;

- from 0 to 50% by weight of the total weight of the formulation of at least one material chosen from thermoplastics, core-shell additives, functionalized elastomers, S-B copolymers, ATBN reactive rubbers or CTBN reactive rubbers,

weaving or knitting said filaments with organic or inorganic fibers thereby forming a woven or knitted fabric; and

compressing under heat said woven or knitted fabric to form a composite material.

29. (new) Process according to claim 28, characterized in that the M block chosen from poly(methyl methacrylate)s or copolymers comprising at least 20% by weight of methyl methacrylate.

30. (new) Process according to claim 28, characterized in that the M blocks comprise at least 75% by weight syndiotactic PMMA.

31. (new) Process according to claim 28, characterized in that the M blocks of the block copolymers further comprise reactive monomers selected from glycidyl methacrylate, tert-butyl methacrylate or acrylic acid.

32. (new) Process according to claim 28, characterized in that the Tg of the B blocks is less than 0° C.
33. (new) Process according to claim 28, characterized in that the Tg of the B blocks is less than -40° C.
34. (new) Process according to claim 32, characterized in that the B block is chosen from poly(alkyl acrylate)s or polydienes.
35. (new) Process according to claim 32, characterized in that the poly(alkyl acrylate) is chosen from poly(butyl acrylate), poly(ethylhexyl acrylate) or poly(octyl) acrylate.
36. (new) Process according to claim 34, characterized in that the B block is 1,4-polybutadiene.
37. (new) Process according to claim 34, characterized in that the dienes of the B block are hydrogenated.
38. (new) Process according to claim 28, characterized in that the glass transition temperature of the S block is greater than 23°C.
39. (new) Process according to claim 28, characterized in that the glass transition temperature of the S block is greater than 50°C.
40. (new) Process according to claim 39, characterized in that the S block is chosen from methylstyrene, vinyltoluene or polystyrene.
41. (new) Process according to claim 28, characterized in that the weight-average molar mass of the block copolymers is between 10 000 g/mol and 500 000 g/mol.
42. (new) Process according to claim 28, characterized in that the weight-average molar mass of the block copolymers is between 20 000 g/mol and 200 000 g/mol.

43. (new) Process according to claim 28, characterized in that the proportion of said rheology-controlling agent is from 10 to 60% and the proportion of said thermosetting resins is from 90 to 40%.
44. (new) Process according to claim 28, characterized in that the proportion of said rheology-controlling agent is from 20 to 50% and the proportion of said thermosetting resins is from 80 to 50%.
45. (new) Process according to claim 28, characterized in that the thermosetting resin comprises a thermosetting epoxy resin and a hardener.
46. (new) Process according to claim 28, characterized in that the organic or inorganic fibers are chosen from glass fibres or carbon fibres.